

REMARKS

In an Office Action mailed on August 13, 2004, claims 1-6, 9-14, 17-23 and 25-28 were rejected under 35 U.S.C. § 102(e) as being anticipated by Davies; claims 7, 8, 15, 16, 24 and 30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Davies in view of Abeno; and claim 29 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Davies. Newly added claims 31-42 are patentable over the cited art. Claims 1-30 overcome the §§ 102 and 103 rejections for at least the reasons that are set forth below.

§§ 102/103 Rejections of Claims 1-8:

The method of independent claim 1 includes generating a first signal that has a fundamental frequency and modulating an input signal with the first signal. The method includes tuning the modulation to a harmonic of the fundamental frequency to produce a modulated signal that has a carrier frequency that is near the harmonic.

Contrary to the limitations of independent claim 1, Davies discloses a system that includes a phase modulator 4, a harmonic upconverter 12 and a bandpass filter 13. Regarding the harmonic upconversion, Davies describes that harmonic upconversion occurs when a signal is passed through a non-linear device so that harmonics are generated in the signal. Davies, 2:1-8. In connection with the system of Fig. 5, Davies describes that, "the phase signal is then modulated onto the fundamental subcarrier Local Oscillator signal 5 to produce a phase modulated bandpass signal at 6." Davies, 8:61-63. Davies also describes that the harmonic upconverter 12 adds harmonics to the signal from the harmonic upconverter 12, and the resultant signal passes through the bandpass filter 13. Davies, 9:3-8.

Thus, Davies clearly teaches that the phase signal is modulated onto the fundamental Local Oscillator signal 5. Davies, 8:61-63. It is then after this modulation that the harmonic upconverter 12 adds additional harmonics to the modulated signal so that the bandpass filter 13 may select the desired harmonic. This technique, however, fails to teach or even suggest the method that is set forth in independent claim 1.

More specifically, the method of independent claim 1 recites *tuning the modulation* to a harmonic of fundamental frequency to produce a modulated signal having a carrier frequency

near the harmonic. (*emphasis added*). No such tuning occurs in Davies, as Davies specifically states that the modulation is tuned to the fundamental frequency of the Local Oscillator. Thus, instead of such tuning, Davies discloses the use of the harmonic upconverter 12 to add harmonic frequencies to the modulated signal.

Therefore, for at least the reasons that are set forth above, Davies fails to teach or even suggest all of the limitations of independent claim 1. Thus, withdrawal of the § 102(e) rejection of claim 1 is requested. Claims 2-8 are patentable for at least the reason that these claims depend from an allowable claim.

§§ 102/103 Rejections of Claims 9-16:

The system of independent claim 9 includes an oscillator to generate a first signal that has a fundamental frequency; a modulator to modulate an input signal with the first signal; and a filter that is coupled to the modulator to tune the modulation to a harmonic of the fundamental frequency to produce a modulated signal that has a carrier frequency near the harmonic.

Contrary to the limitations of independent claim 9, the system disclosed in Davies does not tune a modulation to a harmonic of a fundamental frequency. Rather, the system in Davies modulates a signal to the fundamental frequency of a local oscillator signal and then adds harmonics (via the harmonic upconverter 12) to add harmonics to the signal. Thus, Davies fails to teach or even suggest the limitations of independent claim 9.

Claims 10-16 are patentable for at least the reason that these claims depend from an allowable claim. Therefore, for at least the reasons that are set forth above, withdrawal of the §§ 102 and 103 rejections of claims 9-16 is requested.

§§ 102/103 Rejections of Claims 17-24:

The transmitter of claim 17 includes a modulation system to receive a first signal that has a fundamental frequency, receive an input signal, modulate the input signal with the first signal, and tune the modulation to produce a modulated signal having a carrier frequency near a harmonic of the fundamental frequency of the first signal.

As discussed above in connection with independent claim 1, Davies fails to teach or even suggest a modulation system that tunes a modulation to produce a modulated signal that has a

carrier frequency near a harmonic of a fundamental frequency of the first signal. Therefore, for at least this reason, Davies fails to anticipate independent claim 17.

Claims 18-24 are patentable for at least the reason that these claims depend from an allowable claim. Thus, for at least the reasons that are set forth above, withdrawal of the §§ 102 and 103 rejections of claims 17-24 is requested.

§§ 102/103 Rejections of Claims 25-30:

The method of independent claim 25 includes receiving a first signal that has a fundamental frequency and modulating an input signal with the first signal to produce a modulated signal that has a carrier frequency near a harmonic of the first signal. For at least the reasons that are set forth above in the discussion of independent claim 1, Davies fails to teach or even suggest modulating an input signal with a first signal to produce a modulated signal having a carrier frequency near a harmonic of the first signal. Therefore, for at least this reason, Davies fails to anticipate claim 25.

Claims 26-30 are patentable for at least the reason that these claims depend from an allowable claim. Thus, for at least the reasons that are set forth above, withdrawal of the §§ 102 and 103 rejections of claims 25-30 is requested.

CONCLUSION

In view of the foregoing, withdrawal of the §§ 102 and 103 rejections of claims 1-30 and a favorable action in the form of a Notice of Allowance are requested. The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 20-1504 (ITL.0586US).

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